Annual Report

of the

SASKATCHEWAN

CANCER

FOUNDATION

April 1, 1984 to March 31, 1985

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BOARD OF DIRECTORS

Mr. E. I. Schwartz
Chairman

Dr. R. B. Baltzan

Dr. J. L. Blackburn

Mr. J. Craig

Dr. I. E. Daunt

Mrs. E. Green

Mr. G. F. McCallum

Dr. R. G. Murray

Ms. L. Perrin

Dr. D. J. Philippon

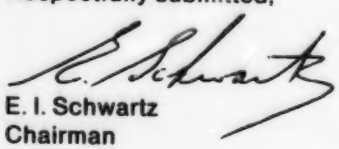
Mrs. J. Turko

Honourable Graham Taylor
Minister of Health
Province of Saskatchewan
Legislative Building
REGINA, Saskatchewan
S4S 0B3

Dear Mr. Taylor:

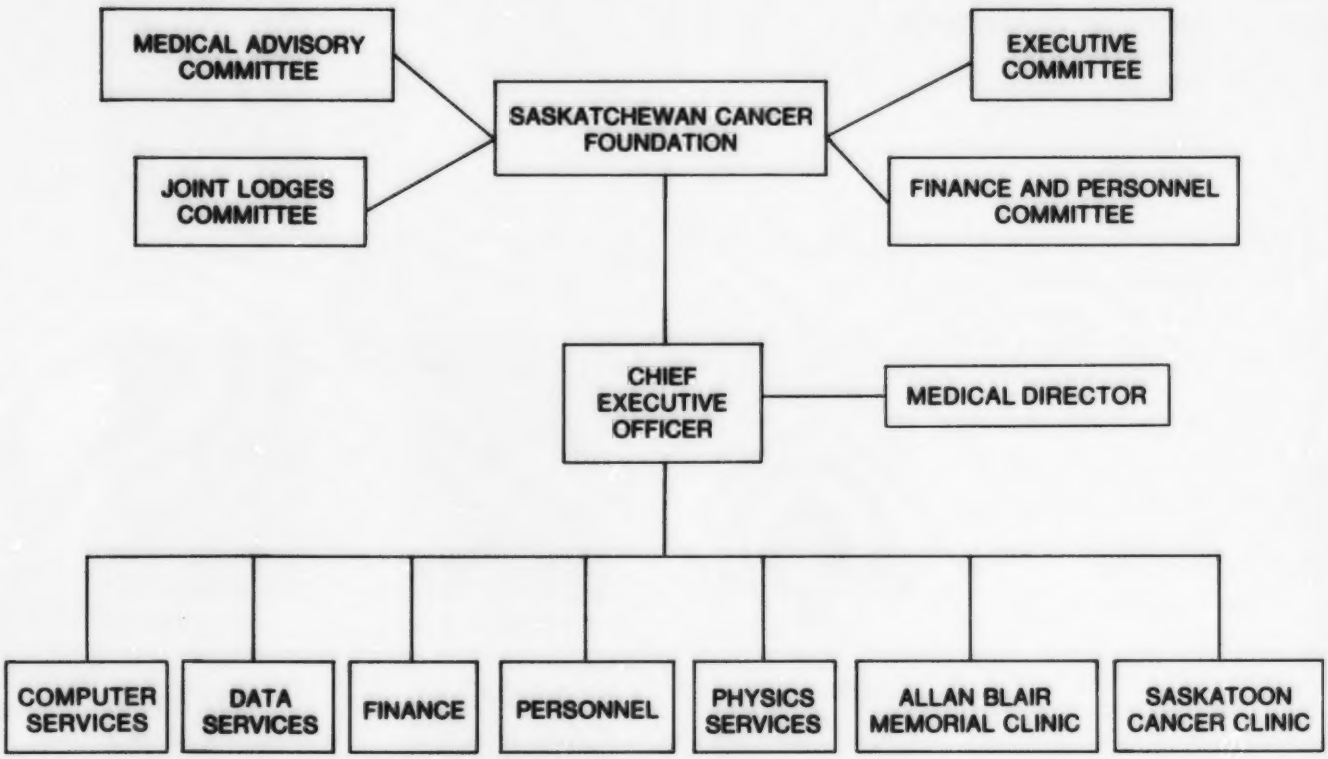
As Chairman of the Saskatchewan Cancer Foundation, I have the honour to submit herewith the report on the activities of the Foundation for the fiscal year ending March 31, 1985.

Respectfully submitted,



E. I. Schwartz
Chairman

ORGANIZATION CHART



MEDICAL ADVISORY COMMITTEE

Dr. D. J. Klaassen — Chairman
Dr. G. R. Armitage
Dr. B. P. D. Colquhoun
Dr. W. N. Huber
Dr. S. K. Liem
Dr. L. K. Moore
Dr. C. H. Rusnak
Dr. G. R. Spooner
Dr. A. K. S. Teckchandani
Dr. H. G. Whiston

JOINT LODGES COMMITTEE

Mr. G. F. McCallum
Ms. L. Perrin

EXECUTIVE COMMITTEE

Mr. E. I. Schwartz — Chairman
Dr. J. L. Blackburn — Vice-Chairman
Dr. R. B. Baltzan
Mr. G. F. McCallum
Dr. R. G. Murray

FINANCE AND PERSONNEL COMMITTEE

Dr. J. L. Blackburn — Chairman
Mr. J. Craig
Mrs. E. Green
Mr. E. I. Schwartz
Mrs. J. Turko

ORGANIZATION

ADMINISTRATION

P. H. Peters
— *Executive Director*
J. M. Gebert
— *Administrative Assistant*
S. O. Fedoruk
— *Director of Physics Services*
R. J. Meldrum
— *Director of Finance*
W. G. Sharp
— *Associate Director of Finance*
M. J. Wenman
— *Accounting Clerk*
D. L. Lauridsen
— *Payroll Clerk*
O. H. Pratt
— *Director of Personnel*
S. H. Tompkins
— *Personnel Clerk*
D. L. Robson
— *Director of Data Services*
D. L. Benson
— *Director of Computer Services*
P. F. Gattinger
— *Programmer Analyst*

ALLAN BLAIR MEMORIAL CLINIC

Dr. H. G. Whiston
— *Director*
J. A. Grill
— *Business Manager*

SASKATOON CANCER CLINIC

Dr. D. J. Klaassen
— *Director*
O. Belovanoff
— *Business Manager*

The Saskatchewan Cancer Foundation has established several sub-committees to facilitate the carrying out of its mandate. The Executive Committee of the Foundation is composed of the Chairman, Vice-Chairman and three other members. It considers any urgent business of the Foundation that may arise between regular meetings of the Foundation. The Medical Advisory Committee advises the Foundation on the provision of medical services and other related matters. Its membership includes the Medical Directors of the cancer clinics, two full-time physicians on the clinic staff, three specialists in private practice and two general practitioners as determined by agreement with the College of Physicians and Surgeons of Saskatchewan and one representative from the College of Medicine. At least ten and not more than seventeen members may be appointed to the committee. The Finance and Personnel Committee consists of the Chairman — ex officio, and four other members of the Foundation. It makes recommendations regarding the financial operation of the program, as well as personnel matters including salary and fringe benefits of staff. The Joint Lodges Committee is a joint committee of the Saskatchewan Cancer Foundation and the Canadian Cancer Society, Saskatchewan Division. Its role is to evolve proposals for patient lodges in Regina and Saskatoon. Two members representing the Saskatchewan Cancer Foundation are members of the committee.

The development and operation of the Saskatchewan Cancer Program is the responsibility of the Saskatchewan Cancer Foundation. It employs a chief executive officer who is responsible for implementing the policies of the Foundation and for the ongoing operation of the program.

The Foundation maintains two service outlets — the Allan Blair Memorial Clinic in Regina and the Saskatoon Cancer Clinic. The clinics provide full diagnostic services, treatment services in radiotherapy and chemotherapy, and follow-up services. The clinics also serve as the centre for co-ordination of a comprehensive and multi-disciplinary approach for all aspects of care and treatment for the cancer patients.

The staff works closely with the patient's family physician, consulting physician and surgeon and other persons not directly employed by the Foundation to ensure the provision of high quality treatment and follow-up care.

ORGANIZATION

Objectives

The objectives of the Saskatchewan Cancer Foundation are:

- the operation of cancer clinics for the examination, diagnosis and treatment of cancer patients
- the education of the public in the importance of the early diagnosis, prevention and treatment of cancer
- the training of technical personnel to assist in the examination, diagnosis, treatment and study of cancer and the provision of facilities for undergraduate and post-graduate study relating to cancer
- the conduct of and participation in research projects in the diagnosis, prevention and treatment of cancer
- the establishment, maintenance and operation of hostels in connection with the clinics

Eligibility and Benefits

To be eligible for benefits under the Cancer Control Program, a patient must be a resident of the province for three months and must be formally admitted to the program by his/her doctor. For landed immigrants and some special residents returning to Canada, this period is reduced to one day. Details on policies governing admission to the program, and payment of services, are included on Page 40.

There is no charge to eligible patients for diagnostic and treatment services received at the cancer clinics. In addition, the Foundation pays for authorized medical and surgical services provided by physicians in private practice, in-hospital drugs, and certain out-patient drugs used in the active treatment of cancer.

Eligible patients who elect to receive their cancer services outside the province are reimbursed at the same rates as if the service was provided in Saskatchewan. If a patient is referred out of the province by the Foundation for treatment not available in Saskatchewan, payment will be made for the medical and hospital expenses incurred. Non-residents who receive cancer services in Saskatchewan are charged at Saskatchewan rates for services rendered.

ORGANIZATION

Nature and Scope of Services

The program offered by the Saskatchewan Cancer Foundation incorporates prevention, detection, diagnosis, treatment and follow-up of patients with malignant or premalignant disease. As a part of this comprehensive program, the Foundation is involved in teaching and research which is complementary to the service activities.

Since only patients referred by doctors are admitted to the Cancer Control Program, the responsibility for suspecting cancer and facilitating its detection at the earliest possible time rests with the family doctor. When the family physician suspects the presence of cancer, and has completed his investigations, a diagnosis should be arrived at and an evaluation made as to the extent of the disease and the treatment required as soon as possible. To facilitate this process, the patient should be referred to the cancer clinic or appropriate specialists, whichever is most suitable. In all cases, the patient must be registered with the program within 14 days of making the diagnosis of cancer.

When a malignant condition is discovered, the clinic medical staff, the patient's physician, and consultant specialists plan and carry out a treatment program. If surgery forms part of the treatment, the patient and his physician may choose an appropriate qualified surgeon from a surgical roster maintained by the Foundation. If radiotherapy forms part of the treatment plan, it is administered by therapeutic radiologists on the staff of the clinics. Chemotherapy, the treatment of cancer through the administration of chemical agents, is carried out by clinic medical staff and by other physicians in consultation with clinic staff.

Regular follow-up examination of patients treated for cancer is a vital procedure in detecting recurrent disease and for assessing the effectiveness of treatments. The Saskatchewan Cancer Foundation maintains a comprehensive follow-up activity with all patients receiving regularly scheduled examinations after treatment by either personnel of the clinics, consultant specialists or their family physician.

The staff of each clinic, in co-operation with the patient's family physician and consultant specialists, attempt during treatment and follow-up to prepare the patient both physically and psychologically for the future. Those who must be fitted with prosthetics are given instructions on how to adapt to them, while patients with certain disabilities are cared for at the Wascana Hospital in Regina or the rehabilitation unit of the University Hospital in Saskatoon. Patients and their families often go through successive periods of stress and readjustment when faced with problems created by a diagnosis of cancer. Medical Social Workers at each clinic are available to meet the social and emotional needs of the cancer patients and their families.

REPORTS

EXECUTIVE DIRECTOR

I am pleased to highlight the operation of the Saskatchewan Cancer Foundation for the 1984-85 year. Some of the items which I will refer to will be expanded on by individuals in the program who have been more directly involved.

Where our previous report emphasized a year of planning, the past year saw, in part, the realization of this effort.

At the Allan Blair Memorial Clinic in Regina, renovations were completed to areas within the Radiation Oncology Department. In addition, construction commenced on a bunker to house a new linear accelerator. Plans for the relocation of the computer room were finalized with construction to begin early in the new fiscal year.

The Regina Cancer Patient Lodge, which is being constructed by the Canadian Cancer Society, Saskatchewan Division, is scheduled for completion in May of 1985, two years after a comparable facility was opened in Saskatoon. We are extremely thankful to the Society who undertook the enormous task of funding the construction and furnishing of these two lodges.

In Saskatoon, planning for the new clinic continued with the selection of Ferguson Folstad Friggstad of Saskatoon as the architects for the project. The architects prepared and presented schematic design drawings which have been approved by the various agencies affected by the project including the University of Saskatchewan, the University Hospital, the Meewasin Valley Authority and the Department of Health. The preliminary design phase has been completed and is being considered by these various agencies. We were also pleased to install a new linear accelerator in the Saskatoon Clinic Radiation Oncology Department.

We are grateful to the Government for their continuing provision of funds to the Foundation for cancer research. The membership of the Research Committee, which is responsible for project review and approval, has been expanded with the addition of Dr. D. D. Johnson from the College of Medicine, University of Saskatchewan and Dr. R. West, Provincial Epidemiologist for Saskatchewan. A report on current research projects is contained elsewhere in this report.

In June of 1984, Mr. D. Lloyd Benson was recruited as Director of the newly established Computer Services Department. This department is responsible for co-ordinating our computer development. Installation of computer equipment in the clinics in July of 1984 resulted in a concentrated effort to move the existing patient registry system to this equipment and convert the system to an on-line application.

The past year has been an encouraging one as we expanded our capability to meet the needs of our patients. The increasing challenge we face is that of providing an efficient and effective service within available resources while attempting to keep up with today's technology and the public's expectations.

In closing, I would like to thank our staff and volunteers for their dedication during the past year. The progress which we have made during the past year is the result of their support and hard work. Finally, my thanks to the Chairman and Board of Directors for their direction, assistance and encouragement during the past year.

P. H. Peters

REPORTS

MEDICAL DIRECTOR

I am pleased to report that this past year was one of continued growth and expansion of our activities within the program. The specific activities of the clinics will be highlighted within their reports.

The staff has spent considerable time and effort in the evaluation, purchase, installation and implementation of our new computer hardware. The development of the software programs to handle our patient registry, appointment system, treatment planning and research activities will soon be finished. We are convinced that the end products will result in major improvements within our program.

The purchase of new equipment in the radiotherapy areas as well as the building of facilities to house them were also important activities this year. Planning for the new Saskatoon Cancer Clinic has occupied a large amount of that clinic's time.

A continued source of frustration to the medical staff of both clinics is the lack of a defined Inpatient Oncology Unit. Negotiations continue with both the Pasqua and University Hospitals for such space. We remain convinced that these units are a necessity but realize it will be difficult to establish them until the remodelling of old, or the building of new facilities is accomplished at both hospitals.

The Medical Advisory Committee met on several occasions throughout the year. Changes to the committee membership include the appointment of Dr. A. K. S. Teckchandani of North Battleford who replaces Dr. J. B. McSheffrey. Dr. McSheffrey, having served two terms representing the College of Physicians and Surgeons of Saskatchewan, is not eligible for reappointment. We are grateful for his contributions during his term. Dr. G. R. Spooner of Indian Head was reappointed for a second term.

The Annual Professional Staff Retreat for Physicians and Physicists was held in November, 1984, in Regina. Mr. L. Benson, Director of Computer Services, Dr. R. West, Provincial Epidemiologist, Dr. A. Maksymiuk, Medical Oncologist and Mr. P. Dickof, Physicist, all presented papers in their respective specialities.

An ad hoc committee was established to review the responsibilities of the Foundation in regard to continuing medical and nursing education. This committee completed its review in February, 1985 and recommended that the medical and nursing educational responsibilities of the Foundation be carried out by utilizing the services of the Continuing Medical and Nursing Education Divisions of the Colleges of Medicine and Nursing of the University of Saskatchewan.

The Physicians Planning Group, consisting of the Directors and Medical Department Heads of the Foundation, met on several occasions to provide coordination for our medical activities. The advice of this group in evaluating present activities and setting goals for the future is an important activity.

There is continued slow, but steady, increase in research. However, we recognize that much remains to be done within this area.

D. J. Klaassen

REPORTS

DIRECTOR OF PHYSICS

Physics Services supports radiation oncology in the clinics through the continued maintenance of radiation dosimetry; collaboration in treatment planning and in verification of the accurate execution of the plans; responsibility for all physical aspects of radiation protection; design and maintenance of radiation oncology equipment; and advice on new radiation oncology equipment and on the physical aspects of the design of buildings.

Physics Services continues full maintenance support for major radiation oncology treatment equipment. Current radiation oncology treatment equipment in the Allan Blair Memorial Clinic consists of a dual purpose x-ray unit, a Picker C9 Cobalt Unit, a Siemens 20 MeV Linear Accelerator and a Siemens Simulator. The Saskatoon Cancer Clinic has a 120 kVp x-ray unit, a Siemens 42 MeV Betatron, a Siemens 6 MeV Linear Accelerator, an A.E.C.L. Cobalt Unit and an A.E.C.L. Simulator. The Saskatoon 280 kVp orthovoltage x-ray therapy machine was retired in June to make room for the new linear accelerator.

Physicists at the Allan Blair Memorial Clinic contributed to the physical expansion of the radiotherapy facilities by participating in the design and construction of a 4MeV linear accelerator bunker, a new computer room, and through preliminary planning for an expansion of the radiotherapy department. Physicists at the Saskatoon Cancer Clinic contributed to the physical planning for the new clinic by defining the needs of the Departments of Radiation Oncology and Physics Services.

During the year, Physics Services has largely completed transfer of the treatment planning and verify/record software to the new VAX 11/750 computers and has provided technical assistance to the Department of Computer Services.

Physicists in both clinics are involved with the Departments of Nuclear Medicine of the Pasqua, Plains, Regina General and University Hospitals. Physics Services has advised on the purchase and testing of a large field of view gamma camera, a xenon delivery system, a computer system for the new department at the Regina General Hospital, a number of computer peripherals and a computer system for the Pasqua Hospital. Substantial effort has gone into the development of software for the high speed hardware acquired for single photon emission computed tomography studies.

In Regina, in research and development, projects include the use of micro-computer based hardware to automate various radiotherapy functions, a joint project with the National Research Council and the W. W. Cross Cancer Institute investigating Monte Carlo radiation dose calculations, the production of a dose calculation algorithm using convolution mathematics, and a research contract awarded by the Atomic Energy Control Board to measure radiation doses to technologists from nuclear medicine imaging procedures. In Saskatoon, projects include sonic positioning devices, an optical system for patient contour measurement, and the use of a small home computer to monitor radioisotope laboratories or hospital wards.

S. O. Fedoruk

REPORTS

DIRECTOR OF DATA SERVICES

Data Services supports and maintains the Cancer Registry and its associated functions within the Health Records Departments of both clinics.

During 1984, extensive design and development work was done to convert the Cancer Registry System from a batch to an on-line system. The on-line system will initially have two major components — cancer registry information and appointment bookings and is expected to be implemented in 1985.

Throughout the year, data for 90 information requests was provided from the registry files. Data available on the registry files currently goes back to 1970. The data from 1935 to 1969 is available manually.

In 1984, 5,063 new cancer cases were diagnosed in Saskatchewan. The summary of these cases and incidence rates per 100,000 population can be seen on pages 24 and 25 of this report. Throughout the province there are approximately 37,300 active patients of which 6,000 are on review at the cancer clinics, 31,000 on follow-up by mail review, and the remaining 300 are newly diagnosed cases not yet assigned to a follow-up program.

The Western Canada Cancer Registries Association is an alliance of the cancer registries of the four western provinces and, most recently, Ontario. At its annual meeting, the Association agreed to update the publication "Synopsis of Western Canada Registries", to continue working towards data comparability between the provinces, and to pursue the expansion of the Association to a national level.

D. L. Robson

ALLAN BLAIR MEMORIAL CLINIC

ALLAN BLAIR MEMORIAL CLINIC

1984-85 has been a year of achievement during which the results of hard work and planning of the previous years have come to fruition, primarily in the areas of physics, radiotherapy and research.

The Departments of both Radiation and Medical Oncology continue to actively participate in clinical research through the North Central Cancer Treatment Group with the Mayo Clinic in Rochester. The clinic is intending to commence protocol activities with the Children's Cancer Treatment Group and the National Cancer Institute of Canada Clinical Trials Group within the next year.

Several changes to senior staff positions occurred during the year. Dr. C. H. Crosby retired from his position as Surgical Consultant and Dr. J. H. M. MacIntosh retired from his position as Medical Oncologist specializing in pediatric oncology.

In Physics Services, Dr. T. R. Mackie has been recruited to fill a new physics position, allowing the department to expand its service to Nuclear Medicine. The position of Chief Medical Physicist continues to be vacant.

In the past year, Physics Services has continued to provide excellent support to the Department of Radiation Oncology. Physics Services also provided technical assistance to the Department of Computer Services in the selection and preparation for installation of two VAX 11/750 computers. Transfer of treatment planning and verify-record software to the new VAX computers is largely completed. They have also been involved in the physical expansion of the radiotherapy facilities including the design and construction of the 4 MeV linear accelerator bunker, the design of a new computer room and the preliminary planning for an expansion of the Department of Radiation Oncology and Physics Services. Physics support to Nuclear Medicine in Regina hospitals has increased to the extent that these hospitals now provide funding for the equivalent of one and three-quarters physicists.

The clinic's 26-month Radiotherapy Technologist Training Program was reviewed by the Canadian Association of Medical Radiation Technologists and has received 4-year accreditation. The program has progressed satisfactorily with the first three students graduating in September, 1985, while two other students are in their first year.

Construction of the Canadian Cancer Society Patient Lodge in Regina is scheduled for completion in May, 1985. This joint project has seen the Society provide a beautiful facility which will be turned over to the Foundation to operate. The lodge will accommodate out-of-town cancer patients who are receiving treatment at the Allan Blair Memorial Clinic. We are thankful to the Society for their hard work in providing this lodge.

In Health Records, a major advancement has been the development of an on-line patient registry and appointment system. These systems are expected to be operational in 1985.

Nursing staff attended the Annual Saskatchewan Oncology Workshop and the Advanced Oncology Workshop and continue to contribute to public and student nursing education.

As an outcome of the Guidelines for the Safe Handling of Antineoplastic Agents, a laminar air flow hood for the preparation of drugs was installed in the Chemotherapy Department in November, 1984.

In addition to the usual services provided by the Social Worker and the Personal Services Worker, the Department is increasingly involved in educational activities through the Community Education Program, the Cansurmount Program and attendance at staff training sessions.

ALLAN BLAIR MEMORIAL CLINIC

The Social Work Department's ongoing involvement with the Regina Palliative Care Incorporated Group assisted with the training of volunteers in the palliative care field and the establishment of a Bereavement Follow-up Program.

The time and effort contributed by the volunteers in the care of patients is gratefully acknowledged, as is the grant from the Canadian Cancer Society for the funding of the Personal Services Worker.

Allan Blair Memorial Clinic Staff

Administration

Dr. H. G. Whiston
— *Director*
B. I. Karchewski
— *Secretary*
J. A. Grill
— *Business Manager*
A. M. Sweet
— *Assistant to Business Manager*
M. Foster
— *Secretary*

Medical

H. G. Whiston, M.B., Ch.B., D.M.R.T., F.R.C.P.(C)
W. A. Bethune, M.B., B.S., D.A.B.R.
G. H. Ewing, M.B., Ch.B., M.R.C.P.(Ed.), F.R.C.P. (C)
T. S. Goh, M.B., B.S., F.R.C.P.(C)
P. W. Kuan, M.B., D.M.R.T.(T), F.R.C.P.(C)
S. K. Liem, M.D., D.A.B.R., F.R.C.P.(C)
M. A. Poon, M.B., F.R.C.P.(C)
S. Rayson, M.B., B.S., F.R.C.P.(C)
L. J. Rodrigue, M.D., F.R.C.S.(C), D.A.B.S.

Consultants

Pathology
D. Dexter, M.R.C. Path., F.R.C.P.(C)

Diagnostic Radiology
H. H. Phillips, M.D., F.R.C.P.(C)

ALLAN BLAIR MEMORIAL CLINIC

Nurses
- V. Curtis — Head Nurse
- J. Bartel
- G. Burk
- M. Gautama
- G. Lefebvre
- S. McNea
- F. Moore
- B. Priebe
- S. Fraser — Part Time

C.N.A.'s and Nurses Aides
- V. Blake
- D. Cochrane
- L. Dobson
- R. Gaube
- J. Lamotte
- I. Streete
- H. Yaworski

Porter Attendant
- H. Goertz

Health Record Administrator
- K. Hack

Statistics
- A. Watson
- E. Hubick
- L. Kardynal
- G. Korol
- T. Parker
- M. Johnson — Part Time

Records
- M. Durston
- S. Leswick-Hazen
- A. Nimetz
- E. Robertus
- R. Schondelmier
- S. Monson, L. Skrtic — Part Time

Data Entry
- B. Bryksa — Part Time

Reception and Admitting
- P. Clow
- D. Tendler

Medical Typists
- C. Bagu
- C. Bennett
- D. Dunham
- R. Nagy
- S. Rabak
- S. Rathgeber

Physicists
- P. A. Dickof, M.Sc. — Acting Chief Medical Physicist
- T. R. Mackie, Ph.D.
- M. G. Schmid, B. Sc., M.Sc.
- R. S. Sloboda, B.Sc., Ph.D.

Physics Support Staff
- I. Hardie
- J. Hughes
- J. Lawrence
- W. MacDonald

Radiotherapy Technologists
- M. Stepanek — Chief Technologist
- B. Foote
- G. Hewitt
- S. Lawrence
- N. Makhani
- T. Mitchell
- J. Rodgers
- K. Thompson
- M. White
- S. Wozny

Radiotherapy Technologists Students
- T. Hubick
- R. O'Byrne
- E. Schmid

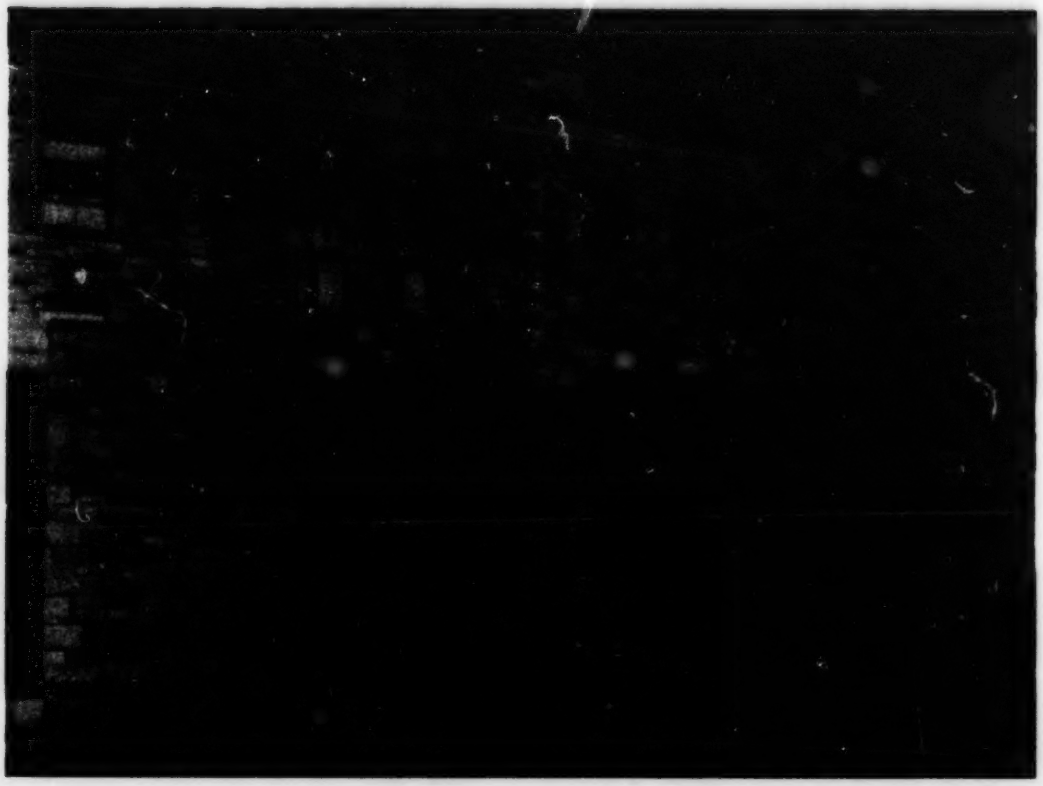
Simulator Technician
- L. Goalen — Part Time

Research Assistants
- E. Dietrich
- B. Haggman
- R. Morris

Social Worker
- B. Uncles

Personal Services Worker
- B. Butcher

SASKATOON CANCER CLINIC



SASKATOON CANCER CLINIC

In 1984-85 the major involvement of the staff of the Saskatoon Cancer Clinic centered on the further planning of the new cancer clinic facility. The architectural firm of Ferguson Folstad Friggstad of Saskatoon was selected in May and started conceptual planning on June 1, 1984. On August 31, 1984 the conceptual plan was presented to the Minister of Health and verbal approval to proceed was received in November. It is expected that the preliminary design phase will be completed in March 1985.

The Department of Medical Oncology continues to participate in clinical trials as part of the North Central Cancer Treatment Group and the National Cancer Institute of Canada Clinical Trials Group. In other clinical studies, Dr. A. Maksymiuk is collaborating with Searle Pharmaceuticals in the use of a cytoprotective agent, Misoprostyl, in arterial infusion patients and Dr. C. Little is participating with Shering Pharmaceuticals using Leuprolide and Flutamide in advanced prostate cancer.

Administratively, as of January 1, 1985, Dr. G. Armitage resigned as Head of Medical Oncology, both within the Saskatoon Cancer Clinic and the Department of Medicine of the University of Saskatchewan, and Dr. C. Little has agreed to assume those responsibilities.

The Department of Pediatric Oncology initiated its participation in the clinical trials of the Childrens Cancer Study Group with 32 new patients being registered and 18 patients entered on study or on follow-up.

In the Department of Radiation Oncology, the commissioning of a new 6 MeV linear accelerator was completed and treatments on the machine commenced in January, 1985. A new Philips orthovoltage x-ray therapy machine replaced the old 280 kVp Picker unit. In conjunction with this, a water phantom for getting isodose data for therapy machines was commissioned as well and used extensively to prepare data for the new accelerator.

The Department participated in the studies of the above noted co-operative groups as well as those of the Radiation Therapy Oncology Group.

The Radiotherapy Technologist Training Program continues to train and graduate technologists whom we are pleased to employ in the clinic.

Physics Services, in co-operation with the Department of Computer Services, participated in the selection and preparation for installation of the two VAX 11/750's. These computers were installed in both clinics during July. Physics Services were also instrumental in installing the communications network required for this equipment both within the buildings and between the clinics.

Research activities have had difficulty in competing for time and effort in view of the very heavy maintenance and clinical demands on the Physics Department. Effort is continuing with patient contouring, area monitoring and patient positioning monitoring. New projects include digital and video enhancement of port and simulator films and developing a filmless mega-voltage imaging system to solve problems inherent in using port films.

The nursing staff, in addition to their patient services duties, continue to support Continuing Nursing Education and participate in educational programs in the province.

In Health Records, a major advancement has been the development of an on-line patient registry and appointment system. These systems are expected to be operational in 1985.

There were 421 patients accommodated at the Saskatoon Cancer Patient Lodge during the past year. Of these 212 were on radiotherapy treatments, 123 on chemotherapy treatments and 86 were admitted for other reasons.

Volunteer activities, organized by the Cancer Society, have developed at the Lodge. Lodge residents volunteered their services to complete packaging tasks related to the Cancer Society programs such as (1) Time to Quit, (2) Fonyo's Journey for Lives and, (3) the annual campaign. These reciprocal arrangements are a compliment to the co-operation enjoyed between the two functions within one house.

SASKATOON CANCER CLINIC

Reorganization of Social Services staff in 1984-85 resulted from changing community and clinic needs. The Medical Social Worker's emphasis is on program development, especially in the area of palliative care services, group support for parents of children with cancer, teaching, and supervision of senior Social Work students from the Regina School of Social Work.

The Personal Services Workers assisted in teaching, supervised a student placement from the Personal Development Program from Kelsey Institute, planned the Volunteer Workshop, and supervised the recruitment and deployment of volunteers in the clinic area. The Personal Services Workers provide direct service to patients through clinic and hospital visits, arranging accommodation and transportation, distribution of wigs and dressings, and by participating in Cancer Patient Lodge group meetings.

The employment of a part-time dietician and the establishment of improved dietetic counselling to patients regarding eating and nutritional concerns has been greatly utilized and appreciated.

Saskatoon Cancer Clinic Staff

Administration

Dr. D. J. Klaassen
— Director
A. D. Oatway
— Secretary
O. Belovanoff
— Business Manager
M. M. Wood
— Assistant to Business Manager

Medical

D. J. Klaassen, B.A., M.D., F.R.C.P.(C)
C. T. Ago, M.B., D.M.R.T., F.R.C.R.
G. R. Armitage, M.D., F.R.C.P.(C)
M. L. Davis, M.D.
P. K. Joseph, M.B.B.S.
C. D. Little, M.D., F.R.C.P.(C)
I. M. MacLennan, M.B., Ch.B., D.A.B.R.(T)
D. G. McGowan, M.B., Ch.B., D.M.R.T., F.R.C.P.(C)
J. B. McSheffrey, B.A., M.D., F.R.C.P.(C)
A. W. Maksymiuk, M.D., F.R.C.P.(C)
M. F. Mohamed, M.B.B.S., D.M.R.T., F.R.C.R.
A. Naidoo, M.B., Ch.B.

Part Time

R. T. Card, M.D., F.R.C.P.(C)
S. Padmanabh, M.B.B.S., D.C.P., M.R.C.P. (Ed), F.R.C.P.(C)
D. Popkin, B.Sc., M.D., C.M., F.R.C.S.(C)
L. F. Skinnider, M.B., F.R.C.P.(C)

Consultants

Pathology
H. J. Block, F.R.C.P.(C)
H. E. Emson, F.R.C.P.(C)

Diagnostic Radiology
G. Bray, D.M.R.D., F.R.C.P.(C)
C. S. Houston, M.D., F.R.C.P.(C), F.A.C.R.
J. G. Monks, F.C.C.P., B.A.O., D.M.R.D., F.R.C.P.(C)

SASKATOON CANCER CLINIC

Nurses
S. Cianflone — Head Nurse
H. Borden
B. Bourhis
E. Farkas
M. Grant
V. Stacey
L. Wilson
C. Bichon, D. Hickie — Part Time

C.N.A.'s
E. Friesen
M. Orr
N. Pasloski
D. Tatarynovich

Porter
R. Pryor

Health Record Administrator
V. Runquist

Statistics
M. Blatz
D. Burnett
J. Frechette
R. McKillican
L. Uchacz
C. Wilson
F. Lowe — Part Time

Records
C. Benjaminson
N. Butschler
B. Esau
L. Fleming
C. Johnson
Y. Paradis
S. Saini — Part Time

Data Entry
L. Miller

Reception and Admitting
D. Dyal
S. Estey
D. Jaszan

Medical Typists
A. Greva
S. Boulin
M. Emigh
V. Langlois
D. Leciuk
O. Marriott
D. Melnyk

Physicists
W. B. Reid, B.A., M.A., Ph.D., F.C.C.P.M. — Chief Medical Physicist
A. D. Baillie, B.Sc., Ph.D.
R. Hummel, B.Sc.(EE), M.Sc., Ph.D.

Physics Support Staff
R. Berthiaume
K. Damm
J. McConnell
S. Meeklah
R. Penley
H. Dueck — Part Time

Physics Secretary
B. Piercy

Radiotherapy Technologists
H. Walker — Chief Technologist
J. Bishop
S. Boyle
T. Cisecki
P. Gesiorowski
M. Gibb
E. Goretzky
D. Irwin
M. Nicol
A. Roberts
J. Rudolph
N. Carlsen, D. Rapp, P. Stalker — Part Time

Radiotherapy Technologist Students
N. Denis
I. Hudson
K. Jones
K. Stewart

SASKATOON CANCER CLINIC

Simulator Technician
D. Paisley

Dietician
J. Harvie — Part Time

Research Assistants
W. Potter
D. Dupuis

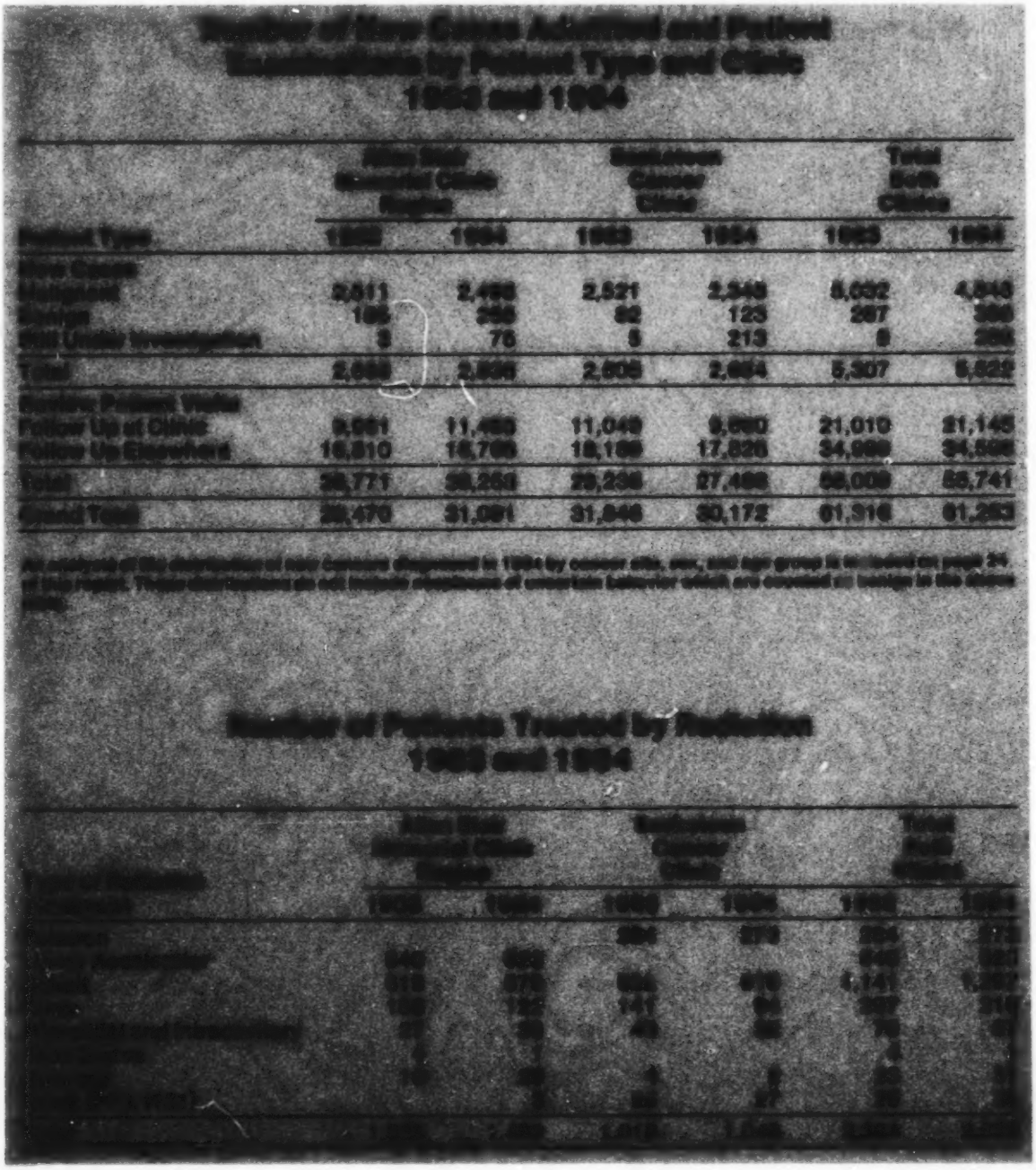
Social Worker
E. Skinner

Personal Services Workers
C. Deering
B. Morrall

Patient Lodge
M. Kucey — Lodge Manager
B. Gregory
L. Mulligan
M. Strohan
A. Urscheler

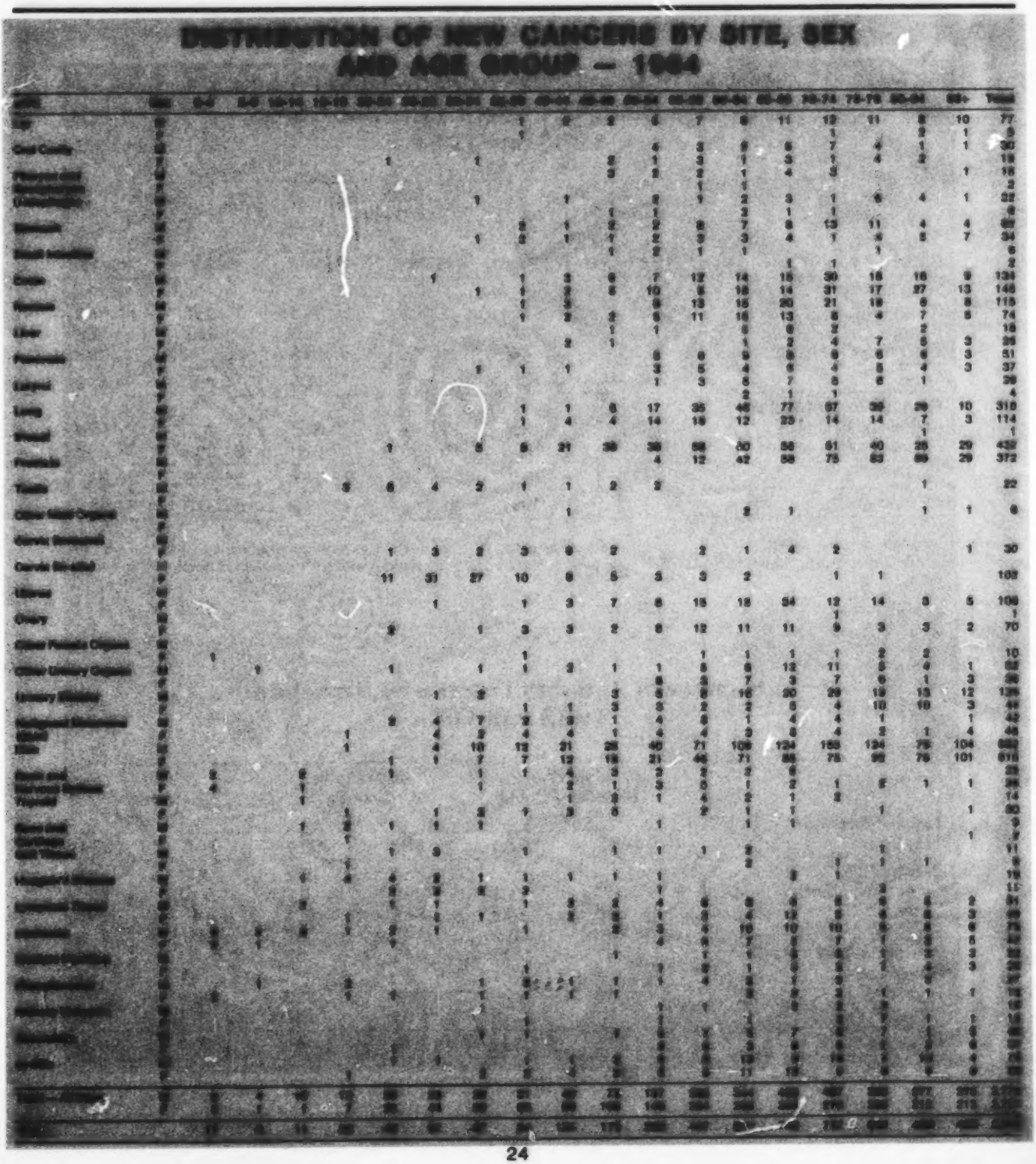
L. Hodgins
M. Letkeman — Part Time
G. Ruder

STATISTICAL TABLES



STATISTICAL TABLES

DISTRIBUTION OF NEW CANCERS BY SITE, SEX AND AGE GROUP — 1964



STATISTICAL TABLES

INCIDENCE OF CANCER PER 100,000 POPULATION 1984

Site	Total Population (1) 1984		Population at Risk (2) 1984	
	Male	Female	Male	Female
Lip	14.9	1.0	37.5	2.3
Oral Cavity	5.8	3.7	14.6	8.8
Pharynx and Nasopharynx	3.1	0.4	7.8	0.9
Oesophagus	4.3	1.2	10.7	2.8
Stomach	12.0	6.6	30.2	15.8
Small Intestine	1.2	0.4	2.9	0.9
Colon	25.9	28.3	65.2	67.5
Rectum	22.2	14.5	56.0	34.5
Liver	3.5	4.9	8.8	11.6
Pancreas	9.9	7.2	24.8	17.2
Larynx	5.4	0.8	13.6	1.9
Lung	61.5	22.3	154.7	53.1
Breast	0.2	84.4	0.5	201.2
Prostate	71.9	0.0	181.0	0.0
Testis *	4.3	0.0	5.6	0.0
Other Male Organs	1.2	0.0	2.9	0.0
Cervix (Invasive) †	0.0	5.9	0.0	8.6
Cervix (In-Situ) †	0.0	19.9	0.0	29.3
Uterus	0.0	21.1	0.0	50.3
Ovary	0.0	13.9	0.0	33.1
Other Female Organs	0.0	2.0	0.0	4.7
Other Urinary Organs	10.1	7.0	25.3	16.6
Urinary Bladder	24.8	8.6	62.3	20.5
Malignant Melanoma (Skin)	8.1	9.0	20.4	21.4
Skin	170.6	120.4	429.1	286.9
Brain and Nervous System	4.8	4.9	12.2	11.6
Thyroid	2.7	3.9	6.8	9.3
Bone and Cartilage	1.7	0.4	4.4	0.9
Soft Tissue	2.1	1.2	5.4	2.8
Hodgkin's Disease *	3.7	2.1	4.9	2.8
Lymphoid Tissue	9.9	9.6	24.8	22.8
Leukemia	14.7	8.2	37.0	19.6
Multiple Myeloma	4.3	4.9	10.7	11.6
Miscellaneous	5.2	3.5	13.1	8.4
Primary Unknown	1.9	2.9	4.9	7.0
Secondary Site	8.9	7.2	22.4	17.2
In-situ Cancers	15.1	15.6	38.0	37.3
Total — All Sites	535.7	447.8	1,347.7	1,067.3

Note: (1) Population Statistics, 1984 based on Saskatchewan Hospital Services Plan, Covered Population, 1984.
(2) Population at Risk is 35 years of age and older, except for: * 15 years of age and older, † 20 years of age and older.

FINANCIAL STATEMENTS

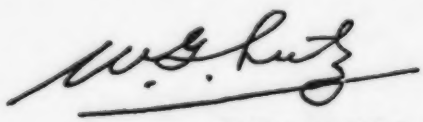
Year Ended March 31, 1985

AUDITOR'S REPORT

To the Members of the Legislative Assembly
Province of Saskatchewan

I have examined the balance sheet of the Saskatchewan Cancer Foundation as at March 31, 1985 and the statements of revenue and expenditure and fund balance for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Saskatchewan Cancer Foundation as at March 31, 1985 and the results of its operations for the year then ended in accordance with the disclosed basis of accounting applied on a basis consistent with that of the preceding year.

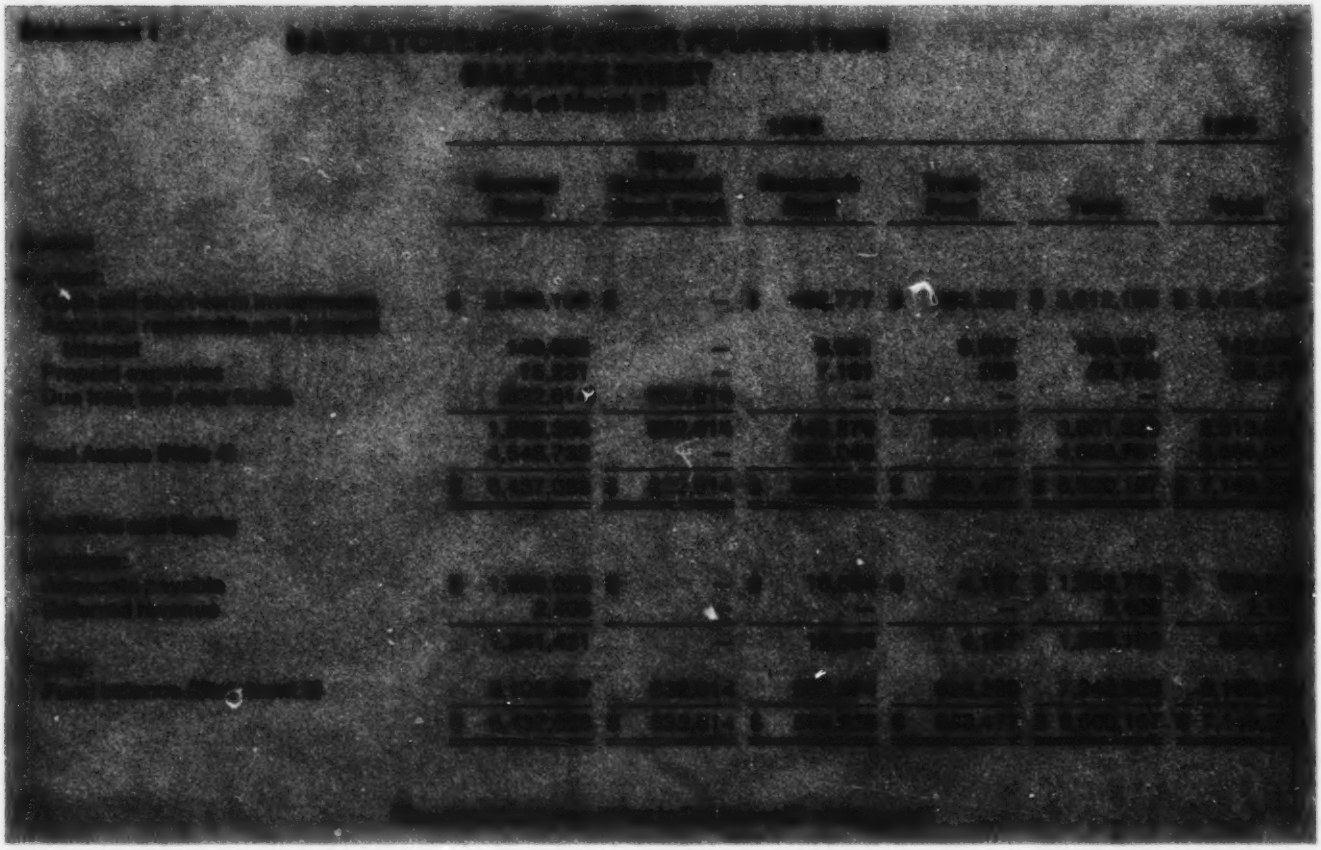


Regina, Saskatchewan,
July 3, 1985.

W. G. Lutz, F.C.A.,
Provincial Auditor.

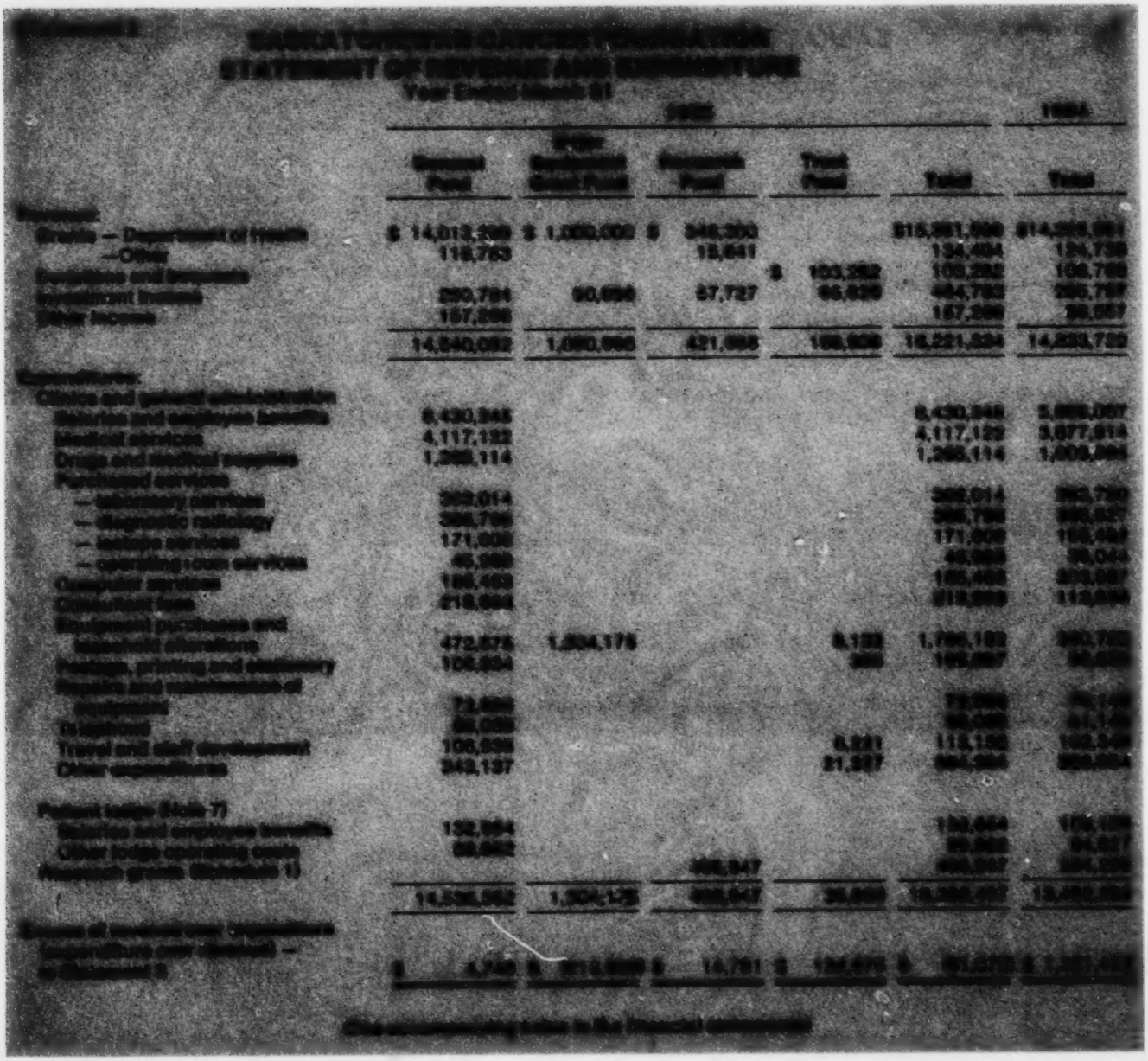
FINANCIAL STATEMENTS

Year Ended March 31, 1985



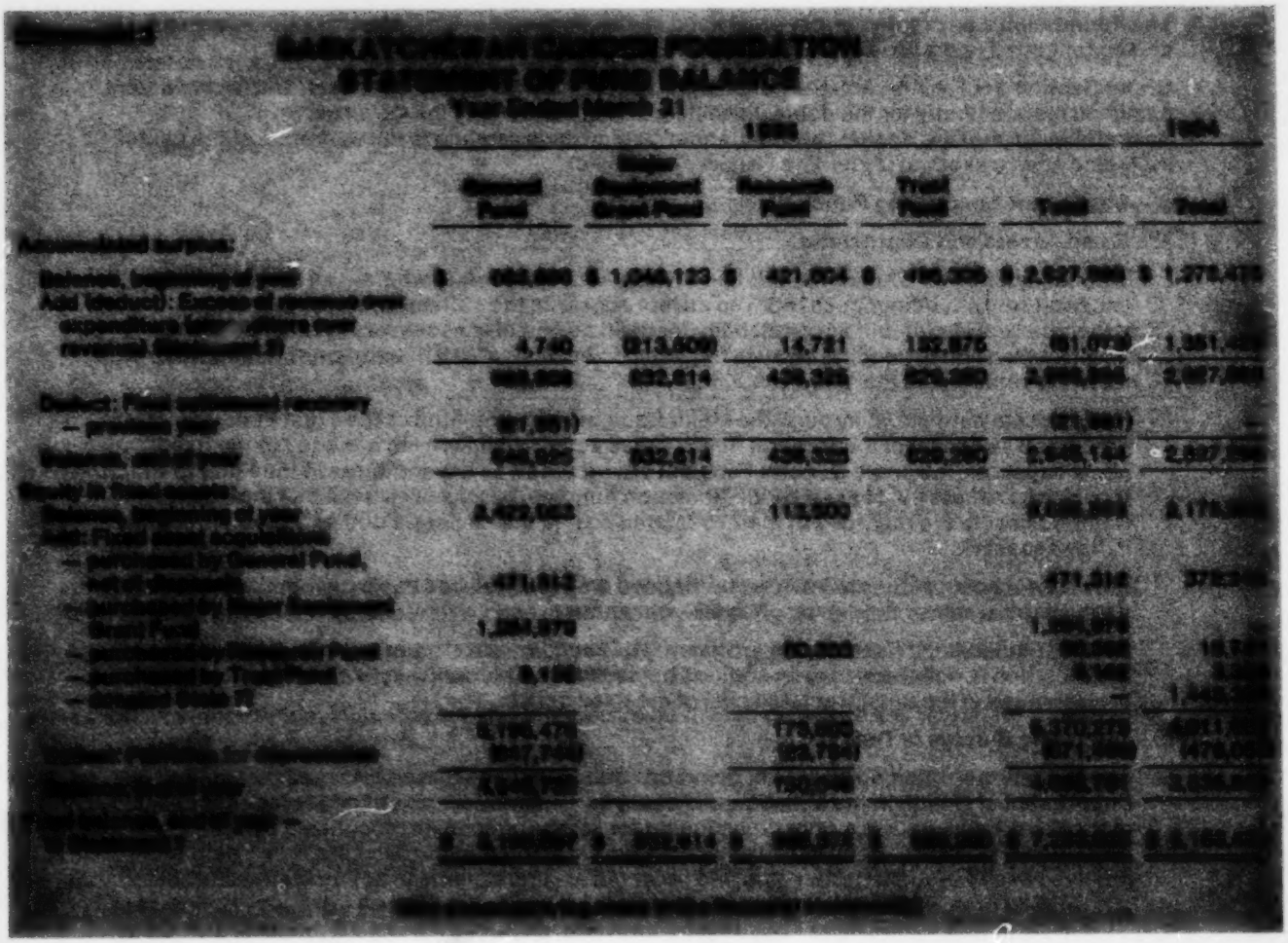
FINANCIAL STATEMENTS

Year Ended March 31, 1985



FINANCIAL STATEMENTS

Year Ended March 31, 1985



FINANCIAL STATEMENTS

Year Ended March 31, 1985

SASKATCHEWAN CANCER FOUNDATION
NOTES TO THE FINANCIAL STATEMENTS

March 31, 1985

1. **Legal Status of the Saskatchewan Cancer Foundation**

The Foundation was created under provisions of The Saskatchewan Cancer Foundation Act, 1979 and commenced operations on August 1, 1979.

Under Section 38(1) of the Act, the Foundation acquired ownership of the assets and rights and assumed responsibility for the debts, liabilities, and obligations of the Government of Saskatchewan and the Saskatchewan Cancer Commission relating to the operation of the clinics in Regina and Saskatoon under The Cancer Control Act.

2. **Significant Accounting Policies**

a) **Fixed Assets and Depreciation**

The Saskatchewan Cancer Foundation utilizes fund accounting wherein all revenues and expenditures including those for fixed assets appear in the statement of revenue and expenditure. To maintain accountability for fixed assets, it is necessary to record them as assets with a corresponding entry to "equity in fixed assets". All fixed assets costing $100 or more are recorded in this manner.

Fixed assets purchased through the Major Equipment Grant Fund or the Trust Fund are presented as assets of the General Fund. These acquisitions are not included in the fixed asset expenditures of the General Fund but are recorded as expenditures in the Fund to which they apply. Assets purchased by the Research Fund are recorded as assets of that Fund. Donated assets are recorded at their estimated cost in the General Fund as a credit to "equity in fixed assets".

Fixed assets of the Foundation are depreciated on a straight-line basis over their estimated useful lives at rates ranging from 5 to 20% per annum.

As the acquisition of fixed assets is primarily financed by government grants, a provision for depreciation is not charged to operations but is charged to "equity in fixed assets" to reflect the decrease in the undepreciated cost of the fixed assets.

b) **Operating Surplus or Deficit**

Any operating surplus, exclusive of donations and investment income, is repayable to the Department of Health in the subsequent fiscal year. A deficit on operations is the responsibility of the Foundation unless a prior commitment for reimbursement is recognized by the Department of Health. Such surplus repayments or deficit reimbursements, when paid or received in subsequent fiscal years, are reflected as adjustments to accumulated surplus.

c) **Research Grants**

Research grants awarded by the Foundation to aid in funding approved research projects are charged to expenditure in the year in which costs are incurred on the projects.

d) **Donations**

All donations are treated as revenue of the Trust Fund, which has specifically been established to administer such revenue and related expenditures.

Certain contributions to the Trust Fund are designated by the contributors to be used for such purposes as cancer research, equipment and library books. The Foundation maintains a record of the funds contributed and spent for each of the designated purposes until such funds are fully utilized.

e) **Major Equipment Grant Fund — Investment Income**

Unexpended monies of the Major Equipment Grant Fund, held in the General Fund, are invested in short-term securities. The interest derived from these investments is credited to the Major Equipment Grant Fund.

3. **Restricted Trust Funds**

At March 31, 1985, a balance of $131,312 ($112,640 at March 31, 1984) remained to be used for the purposes designated by the contributors.

4. **Fixed Assets**

	1985			1984
	Cost	Accumulated Depreciation	Net Book Value	Net Book Value
a) **General Fund**				
Land and Improvements	$ 73,930	$ 786	$ 73,144	$ 73,537
Buildings	1,503,234	127,982	1,375,252	1,215,820
Leasehold Alterations	141,235	74,426	66,809	28,421
Equipment and Furniture	5,484,816	2,451,289	3,033,527	2,104,275
	$7,203,215	$2,654,483	$4,548,732	$3,422,053
b) **Research Fund**				
Equipment and furniture	$ 207,145	$ 57,096	$ 150,049	$ 113,500

5. **Research Fund**

The Department of Health has provided grants to enable the Foundation to support a number of research projects. The Department has attached the following guidelines to the grants:

a) expenditure of grant funds will be at the discretion of the Foundation. The Foundation will assume responsibility for research costs in excess of the amount granted;

b) research funds, including investment income on the funds, will be kept separate from other funds of the Foundation.

The Foundation has met these guidelines by establishing the Research Fund, separate from other funds of the Foundation, from which research grants are made.

Included in Research Grants are expenditures totalling $60,303 (1984 — $16,725) for fixed assets required for certain research projects. Ownership of these assets is retained by the Foundation.

At March 31, 1985 the Research Fund was committed to expenditures totalling $316,537 ($357,782 at March 31, 1984), being the unexpended portion of approved research project awards.

6. **Major Equipment Grant Fund**

The Department of Health has advised the Foundation of its intention to provide grant funds totalling $5,000,000 for the acquisition of certain major equipment in the period 1983 to 1988. These grant funds are to be paid in semi-annual instalments of $500,000 commencing July 1, 1983. The funds are to be accounted for separately from other equipment grants made through the regular budgetary process thereby permitting any unexpended funds from a preceding year to be carried forward.

In the previous fiscal year, the unexpended balance was disclosed as deferred revenue within the General Fund. In 1984-85, a separate fund was established to account for these monies.

At March 31, 1985, there were outstanding orders for major equipment totalling $1,063,280. These items will be delivered during the 1985/86 fiscal year and will be paid for from the Major Equipment Grant Fund.

7. **Patient Lodges**

In April, 1983 the Canadian Cancer Society, Saskatchewan Division, donated a fully-equipped 28-bed patient lodge to the Foundation. The patient lodge is located at 1036 College Drive, Saskatoon. The estimated cost of the lodge building and equipment was $1,443,333.

Under the terms of an agreement between the Canadian Cancer Society and the Foundation, title to this property was transferred to the Foundation and the Foundation assumed responsibility for the operation of the lodge. Title to the property will remain with the Foundation so long as it is operated as a cancer patient lodge.

There is agreement in principle between the Foundation and the Canadian Cancer Society concerning the ownership and operation of the Patient Lodge in Regina. It provides for the transfer of this property, located at 4104 Dewdney Avenue, to take place during the 1985/86 fiscal year under terms similar to those for the transfer of the Saskatoon Lodge.

8. **Related Party Transactions**

Included in these financial statements are expense amounts resulting from transactions conducted with the hospitals in which the cancer clinics are located. Account balances resulting from these transactions are included in the statement of financial position and are settled on normal trade terms.

In addition, in accordance with signed agreements with the hospitals in which the cancer clinics are located, the Foundation has not been charged with occupancy costs relating to the clinics.

9. **Subsequent Events**

Cancer Clinic — Saskatoon

Subsequent to the year end, the Department of Health advised the Foundation of its intention to provide grant funds totalling $16 million over the next four years to complete the design and construction of a new cancer clinic facility in Saskatoon. During 1984/85, design costs approved by the Department totalling $223,423 were capitalized and classified as "buildings" and the corresponding funding from the Department is reflected in grant revenue.

10. **Comparative Financial Information**

Certain comparative figures have been reclassified in order to conform with the current year's presentation.

FINANCIAL STATEMENTS

Year Ended March 31, 1985

Schedule 1

SASKATCHEWAN CANCER FOUNDATION
RESEARCH FUND
SCHEDULE OF RESEARCH GRANTS

Year Ended March 31

	1985	1984
Participation in North Central Cancer Treatment Group	$ 61,111	$ 68,885
Hyperthermia Project, Regina	2,957	–
Automatic Compensator Project, Regina	99	23,980
Human Tumor Stem Cell Assay, Saskatoon	50,649	57,154
Patient Positioning Devices Project, Saskatoon	21,642	17,830
Optical Patient Contour Measurement Project, Saskatoon	33,631	4,355
Extension of Treatment Planning Function, Regina	16,099	22,905
Lung Cancer and Farming Study, Saskatoon	57,283	11,130
Chemotherapeutic Agents in Patients, Saskatoon	33,617	–
Automated Set-Up of Linear Accelerator, Regina	11,040	2,223
Radiotherapy Automation Project, Regina	3,760	–
Participation in Children's Cancer Study Group	48,080	18,387
Cellular Oncogenes in Human Lung Cancer, Saskatoon	21,793	24,294
Participation in Radiation Therapy Oncology Group	6,801	3,598
Pharmacological Studies of Chemotherapeutic Agents in Cancer Patients, Saskatoon	23,124	11,831
Review of Treatment Results, Regina	10,556	–
Skin Cancer in Saskatchewan, Saskatoon	4,556	–
Dynamic Cardiac Phantom, Regina	80	40
Breast Cancer Project, Saskatoon	69	–
Tissue Culture Project, Regina	–	12,648
Laboratory Establishment Grant, Saskatoon	–	(207)
Lymphoma Culture Project, Saskatoon	–	1,758
Breast Cancer, Pilot Study, Saskatoon	–	3,000
	$ 406,947	$ 283,811

RESEARCH PROJECTS

HYPERTHERMIA RESEARCH PROJECT

Liem, S. K. and Dickof, P. A.

The past year has seen Drs. T. R. Mackie and H. G. Whiston attend a conference in Ottawa on the physical, biological and clinical aspects of hyperthermia. In addition, both of the Saskatchewan clinics were visited by Dr. Peter Raaphorst who gave talks on his research in cell biology and hyperthermia. No progress has yet been made on establishing a clinical hyperthermia program in Regina due to space shortages. There has, however, been agreement in principle to the provision of space near the Radiotherapy Department by the Pasqua Hospital, and discussions are to begin within the clinic on the use of some of this space for our research program.

C-MYC ONCOGENE AMPLIFICATION IN HUMAN LUNG CANCER

Little, C. D.

This project is attempting to evaluate whether amplification of c-myc oncogene can be demonstrated to be amplified using an immunoperoxidase technique. The findings on pathologic slides will be correlated with a clinical course of patients from the cancer registry and a correlation attempted between prognosis, tumor biology and the amplification of c-myc oncogene.

ENHANCEMENT OF TREATMENT PLANNING FUNCTION

Dickof, P. A. and Haggman, B. J.

In the past year, the treatment planning system previously developed in-house has been extended to handle CT scan display. This provides the Radiotherapist with the ability to compare directly the delivered dose distribution with the patient anatomy in a specific plane through the patient. Work is now underway to add three dimensional capabilities, and simulator image display. These expansions will go into clinical use when the treatment planning system itself is fully tested and running on the new VAX computers.

RADIOTHERAPY AUTOMATION PROJECT

Schmid, M. G., Dickof, P. A., and Morris, R. L.

The radiotherapy automation project was established to enable the development of new devices that could be used to automate some of the aspects of providing radiotherapy treatments to cancer patients. During the past year, most of the development effort has gone into two devices, these being an automatic setup controller for the linear accelerator, and an automatic compensator milling machine.

The linear accelerator setup controller has been clinically tested and the first phase of its development is nearing completion. The controller is a device that is capable of setting the physical parameters such as the gantry angle and field size of the linear accelerator remotely. The next phase of the project, now underway, is to develop a hand-held command unit that a radiotherapy technician could use to set up the linear accelerator.

The automatic compensator milling machine is designed to automate the production of the accurate compensators necessary for many types of treatment. Testing of the milling machine controller has begun and interfacing the device to the VAX computer system is now underway.

RESEARCH PROJECTS

OPTICAL PATIENT CONTOUR MEASUREMENT

Baillie, A. D. and Potter, W.

An optical system has been designed in which a grid of lines is projected onto the radiotherapy patient, and the patient is then viewed by a television camera through a second parallel grid. The image on the camera appears to show the patient illuminated by parallel sheets of light perpendicular to the viewing axis. This image may then be analyzed to give contour data for treatment planning.

The apparatus which has been constructed has been designed so that parameters of the design may be adjusted to yield an optimal arrangement for future, more compact models. The image on the television camera is digitized and analyzed largely automatically.

The immediate application of the contour data acquired is in the preparation of missing tissue compensators for large field treatments.

SONIC PATIENT POSITIONING

Reid, W. B. and Hummel, R. H.

The system was rebuilt taking advantage of our accumulated experience to improve the modularity of design of both the hardware and software. A report on the design was presented at the Radiological Society of North America annual meeting in Washington last November. This summer we are getting engineering data on the utility of the principle measured in active radiation therapy rooms. This data will allow us to design realistic systems and identify any components that need improvement.

RADIATION AREA MONITOR

Reid, W. B. and Hummel, R. H.

In this project it is intended to demonstrate the utility of using a small home computer to monitor radioisotope laboratories or hospital wards to provide data useful for both health physics and security. Existing area monitors cannot summarize data which would be useful in using the ALARA principle of radiation dose minimization nor for calculating effective dose equivalent as required by the most recent recommendations of International Committee on Radiological Protection and Atomic Energy Control Board regulations. We plan to assemble demonstration equipment this summer to enable some evaluation to take place over the next few months.

APPLICATION OF DIGITAL IMAGING TECHNIQUES

Ago, C. T. and Baillie, A. D.

This project, which is just being started, will investigate the application of various image enhancement techniques to radiographs produced within the Radiotherapy Department. Initial work will look at the enhancement of portal films produced on the treatment units which are of inherently poor contrast. The improvement of images captured from the fluoroscopy chain of the simulator will also be investigated.

RESEARCH PROJECTS

RETROSPECTIVE ANALYSIS OF TREATMENT RESULTS AT THE ALLAN BLAIR MEMORIAL CLINIC

Bethune, W. A., Ewing, G. H., Liem, S. K., and Poon, M. A.

Treatment results for carcinoma of the glottis have been analysed for the period 1962-1982. Preliminary indications would suggest that there may be significant differences between radiotherapy techniques in the 131 charts reviewed.

242 charts of patients with Hodgkin's Disease are being reviewed to determine cure rates by stage and other parameters with an in-depth analysis of treatment failures.

Data in 792 cases of bladder cancer and 508 cases of rectal cancer have been extracted and are in the final stages of being tabulated.

DYNAMIC CARDIAC PHANTOM FOR NUCLEAR MEDICINE

Sloboda, R. S.

During the past year the previously described prototype version of the cardiac phantom continued in use as an ejection fraction quality control standard. In addition, the phantom was employed in the cardiac catheterization lab at the Plains Health Centre to gain a better understanding of contrast angiographic techniques. A paper describing the phantom's construction and uses has been prepared and submitted for publication. Development of an enhanced version of the phantom suitable as a research tool with which to investigate methods of radionuclide ventricular volume quantitation awaits supplementary funding.

VALUE OF ANTICALMODULIN DRUGS AS ADJUNCTS TO CANCER THERAPY

Hickie, R. A. and Klaassen, D. J.

Previous studies have indicated that the calcium-binding protein calmodulin (CaM) is involved in cell growth regulations, DNA repair and cellular efflux of anticancer drugs. Studies in our laboratory have shown that CaM levels of cancer cells are abnormally high and that drugs which selectively bind to CaM can inhibit the growth of several human cancer cell types. The main aims of the present investigations are to evaluate the effectiveness of antiCaM drugs: (a) in enhancing the cytotoxic activity of conventional anticancer drugs and of other therapeutic modalities such as radiation therapy and hyperthermia, and (b) in circumventing tumor cell resistance to the therapeutic agents.

RESEARCH PROJECTS

MEMBERSHIP IN THE NORTH CENTRAL CANCER TREATMENT GROUP

Klaassen, D. J. and Poon, M. A. in collaboration with the medical staff of the Saskatoon Cancer Clinic, Saskatoon and the Allan Blair Memorial Clinic, Regina.

The two clinics have continued our participation in the important activities of this co-operative group which is based out of the Mayo Clinic in Rochester, Minnesota. The group develops and manages cooperative clinical trials to evaluate new treatment programs in cancer. These studies cover a variety of cancer sites and treatment modalities. In addition, the group participates in the studies of a large major American oncology group, the Eastern Co-operative Oncology Group. These protocols are evaluated by the University of Saskatchewan Ethics Committee before institution. The major part of our funding for participating in the group is provided by the Saskatchewan Cancer Foundation and is utilized for Data Manager and Oncology Nurse help as well as travel to the bi-annual work meetings of the group. Some funding was also received from the North-Central Cancer Treatment Group's NCI USA grant. During the 1984-85 year, 23 patients entered on NCCTG and ECOG studies. We have participated in the work meetings of the group and any meetings of the Executive Committee. Our staff continue to view this as an important clinical research activity.

SKIN CANCER IN SASKATCHEWAN

Hogan, D. J., Epstein, J. D., Lane, P., Ago, C. T., Naidoo, A. and Klaassen, D. J.

An analysis of all cases of squamous cell carcinoma of the skin 1982 and 1983, basal cell carcinoma of the skin 1983 and malignant melanoma of the skin 1982, 1983 and 1984 is being performed. A questionnaire regarding exposure to sunlight, agricultural chemicals, trauma and other possible risk factors has been mailed to all affected individuals. The same questionnaire has been mailed to an age, sex and location matched control group. It is expected that an analysis of this data will be completed by the end of 1985.

PUBLICATIONS

Danjoux, C. E., Gelber, R. D., Catton, G. E., and Klaassen, D. J. Combination Chemo-Radiotherapy for Residual, Recurrent or Inoperable Carcinoma of the Rectum: E.C.O.G. Study. International Journal of Radiation Oncology, Biology and Physics 11:765-771, 1985.

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POLICIES

POLICIES GOVERNING ADMISSION TO THE CANCER CONTROL PROGRAM AND PAYMENT OF SERVICES

CANCER CLINIC REFERRAL

Any person who has cancer (or allied disease defined as precancerous or premalignant conditions, carcinoma-in-situ, and certain conditions which antedate cancer), or is suspected of having such, may be referred by a doctor and an appointment requested by telephone, letter or referral form (available from the Clinics). Persons referred to the Clinics, who have been resident in the Province of Saskatchewan for 3 months, are eligible for admission to the cancer program. Wherever possible, in order to substantiate the diagnosis of cancer, it is recommended routine diagnostic evaluation be done by the family physicians or through referral to appropriate specialists prior to being referred to the Cancer Clinics.

INVESTIGATIVE SERVICES

Investigative services carried out, or authorized by the clinics, may include full history and physical examination; diagnostic radiologic services; diagnostic laboratory and pathologic services; radioisotopic procedures; specialty consultations; authorized diagnostic or exploratory surgery performed by suitably qualified and approved medical practitioners in private practice. Fees for such authorized services are a responsibility of the Cancer Foundation.

If a diagnosis of cancer is not substantiated, the patient is discharged from the clinic and referred back to his attending physician. He is **no longer** the financial responsibility of the Cancer Foundation.

PRE-ADMISSION DIAGNOSTIC PROCEDURES LEADING TO A DIAGNOSIS OF CANCER

Payment may be authorized for the following diagnostic procedures carried out by a medical practitioner prior to referral and admission of the patient to the Cancer Control Program, if the findings **are positive,** and the patient is **referred** and admitted to a cancer clinic **within 14 days:**

Biopsy of skin including lip but **excluding pigmented lesions** clinically suspicious for malignant melanoma

Lymph node biopsies

Fine needle biopsy or aspirate cytology

Simple biopsy of cervix

Cone biopsy of cervix performed by a qualified surgeon

Dilation and curettage

Prostatic biopsies

Endoscopy (Esophagoscopies, Bronchoscopies, Gastroscopies)

Cystoscopy

Sigmoidoscopy

Angiography

Aortography

Encephalography

Ventriculography

Myelography

N.B. Breast Biopsy is excluded unless performed by a qualified surgeon

Any other pre-admission diagnostic services are not the responsibility of the Cancer Foundation.

POLICIES

PRE-ADMISSION SURGICAL PROCEDURES LEADING TO A DIAGNOSIS OF CANCER

The Saskatchewan Cancer Foundation **cannot** recognize any claim for medical care of a cancer patient unless the patient has been previously admitted to a cancer clinic and the care authorized, excepting when an **emergency operation** is necessary for a cancerous condition, and the cancer clinic is informed within 7 days. Similarly, when an operation is performed on a provisional diagnosis of a benign condition, and a cancerous condition is found to be the principal disorder present, although not previously suspected, the Cancer Foundation will accept responsibility. Under certain or special circumstances, a patient may be admitted to the Cancer Control Program without personal attendance at a clinic. This applies in the case of certain skin cancers, completely excised; carcinoma-in-situ of the cervix, and certain other gynecological and urological cancers not requiring consultation or multimodal therapy. The cancer clinic, however, must be notified of the diagnosis, treatment and plans for management, and receive a copy of all pertinent records within the time limits mentioned. Certain surgical cases completely assessed at a major hospital may be authorized by the surgeon communicating with the Director of the cancer clinic by letter or by telephone. It is necessary in such cases that all pertinent records and reports be sent within the 14-day limit for purposes of registration, documentation and authorization of payment for the accounts by the Saskatchewan Cancer Foundation.

POSTMORTEM DISCOVERY OF CANCER

Accounts in connection with the management of a patient who is found at postmortem to have cancer, are **not** the responsibility of the Cancer Foundation and should be processed through the other payment agencies with the statement that the diagnosis was **not** known prior to postmortem examination.

TREATMENT SERVICES

Surgical

When investigation discloses cancer, and surgical treatment is indicated, the patient or his referring physician may choose a surgeon; the final choice of surgeon always rests with the patient. In the exceptional case, when neither the referring physician nor the patient has a preference, then a roster is used to assist the patient in selecting his surgeon.

The Saskatchewan Cancer Foundation will pay surgeons at specialty rates for procedures authorized by the Foundation, provided the surgeon is Certified or is a Fellow of the Royal College of Physicians and Surgeons of Canada, and is on the list of the College of Physicians and Surgeons of Saskatchewan for payment at specialty rates. Furthermore, the surgeon must have previously applied to the Executive Director of the Saskatchewan Cancer Foundation to have his/her name included on the Surgical Roster of the Foundation, and must provide evidence that his/her practice is located in a community with adequate hospital facilities including radiology, pathology, surgical and anesthetic services, and suitably trained personnel to operate such facilities.

In cases of unusual difficulty, or requiring possible multimodal therapy, it is recommended that preoperative consultation and authorization be obtained from the Foundation.

Surgeons wishing to make application for an appointment to the Saskatchewan Cancer Foundation for inclusion on the surgical roster, should write to the Executive Director, Saskatchewan Cancer Foundation, Suite 400 Parliament Place, 2631 28th Avenue, Regina, Saskatchewan S4S 6X3.

Breast Cancer

It is the policy of the Saskatchewan Cancer Foundation that biopsy and elective surgery for patients with suspected breast cancer be carried out by qualified surgeons in hospitals with a qualified pathologist and facilities for the performance of major surgery.

Unless these conditions are met, financial responsibility for breast surgery will not be assumed by the Cancer Foundation.

POLICIES

Medical

The Saskatchewan Cancer Foundation will pay internists and pediatricians for definitive chemotherapeutic management of leukemias and lymphomas, provided:

- they are certified in medicine or pediatrics by the Royal College of Physicians and Surgeons of Canada, or hold the F.R.C.P. (Canada); and have had past experience or special training in the use of cancer chemotherapeutic agents;
- the patient has been admitted to the Cancer Control Program;
- there is cooperation with the medical staff of the cancer clinic to ensure:
  - i) initial and continuing provision of the chemotherapeutic drugs;
  - ii) appropriate safeguards for the patient against untoward toxicity;
  - iii) the keeping of detailed clinical and laboratory records of the progress of the patient, at the cancer clinic.

Specialists' consultations are paid when authorized by a Clinic Director.

Medical care of complications directly related to surgery for cancer is payable by the Saskatchewan Cancer Foundation.

Supportive medical care required by **special** medical circumstances and provided by a qualified internist is also payable by the Cancer Foundation.

Radiotherapeutic

All radiotherapeutic treatment is performed by the staff of the cancer clinic involved.

Chemotherapeutic

A wide range of chemotherapeutic drugs, proven to be useful in the control of cancer are in use by the medical staff of the cancer clinic involved. These drugs are provided without charge to the patient.

Certain drugs may be provided to the practicing physician for administration to his patient, under the general supervision of the cancer clinic staff provided:

- the patient has been previously admitted to the Cancer Control Program;
- the drug may have usefulness in the management of the patient's cancer;
- the toxicity of the drugs is low, or the tolerance of the patient for the drug has been determined previously by the medical staff of a cancer clinic; or the patient is in the advanced stage of his illness;
- regular clinical and laboratory reports in the required detail are submitted to a cancer clinic.

Accounts concerning the administration of these drugs, or day to day supervision of such patients, may be paid by the Saskatchewan Cancer Foundation.

FOLLOW-UP (REVIEW) SERVICES

When treatment for cancer is completed, and the patient is ready to return home, arrangements are made for follow-up examinations. The family doctor or specialist may be requested by a Clinic Director to conduct review examinations. Requests for review examinations by either a specialist or the cancer clinic may be initiated by the family physician by letter to the Clinic Director. A specialist may make requests of the cancer clinic for review examinations as well by the same procedure.

Cancer patients are encouraged to consult their local physician for purposes of familiarization of the doctor with the progress of the patient, and for purposes of supportive treatment or advice related to their malignant conditions. Fees for such services are payable by the Cancer Foundation. A report of the examination must be submitted to the cancer clinic concerned. A correspondence fee, if appropriate, will be paid by the Cancer Foundation.

POLICIES

SUPPORTIVE CARE

Should the patient's condition be advanced at the time of the first examination by the family physician, his continuing care may be authorized **without prior personal attendance** at a clinic, provided the attending physician notifies the Clinic Director. Payment is on a fee-for-service basis.

DRUG SERVICES

Authorized cancer patients in hospital receive all drugs without direct charge. Drugs are **not** supplied as a benefit to out-patients, excepting for certain hormones and chemotherapeutic agents which are provided by the cancer clinics for active treatment of cancer, and certain replacement drugs made necessary by treatments directed towards the control of cancer.

SERVICES EXCLUDED FROM CANCER FOUNDATION RESPONSIBILITY

The travelling expenses of patients to and from clinics are **not** paid by the Saskatchewan Cancer Foundation.

Private or semi-private ward accommodation, and the services of private duty nurses are **not** paid by the Saskatchewan Cancer Foundation.

Medical care for pre-existing non-malignant disease is **not** the responsibility of the Saskatchewan Cancer Foundation.

Fees for authorized diagnostic or exploratory surgery, even though a benign condition be found, may be billed to the Saskatchewan Cancer Foundation. However, fees for concurrent, definitive treatment of benign conditions are **not** the responsibility of the Saskatchewan Cancer Foundation.

Medical and surgical services rendered to a person prior to admission to the Cancer Control Program are not payable by the Saskatchewan Cancer Foundation.

SERVICES AVAILABLE TO NON-CANCER CASES

Persons with non-malignant conditions may be referred to a cancer clinic for treatment by radiotherapy. Fees for medical and surgical services rendered to such persons are not payable by the Saskatchewan Cancer Foundation.

CORRESPONDENCE SERVICES

In the case of all patients, malignant or non-malignant, which may be seen initially or periodically at the clinics, a full report is mailed to the referring physician as soon as possible. If the patient is hospitalized, progress reports will be sent, either during hospitalization, or at the time of the patient's discharge to his home.

BILLING PROCEDURES

Physician accounts should be sent direct to the Medical Care Insurance Commission, 3475 Albert Street, Regina S4S 6X6, using the MCIC claim cards, as they process these accounts for payment on behalf of the Saskatchewan Cancer Foundation. All other accounts should be sent to the cancer clinic where the patient is registered.

SERVICES OUTSIDE THE PROVINCE

All requests for consultation or treatments which are not available in Saskatchewan, are made by contacting the Clinic Director of the cancer clinic concerned. Financial approval of such special out-of-province referrals may then be authorized by the Executive Director.

Requests on behalf of cancer patients are **not** to be sent to the Medical Care Insurance Commission.

Payment by the Foundation for out-of-province services is made under the following circumstances:

(1) When a patient has been referred out-of-province for consultation or

treatment not available in Saskatchewan, as outlined above, the cost of such treatment is paid by the Saskatchewan Cancer Foundation. The cost of hospital care is paid by the Saskatchewan Hospital Services Plan. Other costs such as travel, sustenance and accommodation are the patient's responsibility.

(2) The regulations regarding unsuspected and emergency treatment of cancer, apply outside the Province as well.

(3) If neither 1 or 2 apply, and a person receives definitive treatment outside the Province, the Saskatchewan Cancer Foundation will only assume financial responsibility, where:

(a) the attending physician was a specialist with qualifications recognized by the Saskatchewan Cancer Foundation;

(b) the appropriate cancer clinic receives complete clinical data from the attending physician including history, physical examination, operative and pathology reports and a discharge summary. The disposition of patient and arrangements for follow-up examinations should be included and subsequent reports sent to the cancer clinic;

(c) the person attends the cancer clinic for follow-up care immediately upon his return to Saskatchewan.

(4) Subsequent follow-up examinations may be conducted out-of-province provided a report is submitted by the attending physician(s).

(5) Advanced care may be conducted out-of-province, if the patient remains a resident of Saskatchewan or, for three months only, if the patient gives up Saskatchewan residence.

(6) When a Saskatchewan resident moves out of the province and establishes residence elsewhere, and develops cancer, the Saskatchewan Cancer Foundation will pay for medical and surgical management as outlined above, for a period of three months only from the date of departure.

In each case either the patient or his physician will be reimbursed at the same rates, and subject to the same conditions as if the services were provided in Saskatchewan.

CANCER DATA SERVICES

Since 1946 every effort has been made to collect complete statistical data concerning cancer in Saskatchewan. For each patient referred a record containing personal and clinic information is completed.

Also through the assistance of the practicing pathologists, copies of pathology reports of cancer are forwarded regularly to the appropriate cancer clinic.

The submission of such a pathology report of cancer by a pathologist is a statistical matter and does not constitute the referral of the patient to a cancer clinic.

CYTOLOGY SERVICES

The Provincial Cytology Laboratory is located in the Pasqua Hospital in Regina and provides all necessary equipment for the performance of cervical cytology technique upon request, without charge. A rapid reporting service acquaints the physician with the result by mail or telephone. A manual of instruction entitled "Prevention of Cancer, The Female Genital Tract — Saskatchewan", is available from the Provincial Cytology Laboratory, or from the Canadian Cancer Society (Saskatchewan Division), 101 - 2629 29th Avenue, Regina, Saskatchewan S4S 2N9.

POLICIES

CANCER PATIENT LODGE REFERRAL

The Lodge provides free accommodation for patients receiving treatment at the clinic who meet the following criteria:

Eligibility

- Patient must be registered with the cancer program in Saskatchewan
- Admission must be authorized by a cancer clinic physician
- Patients must be able to care for themselves and must not require any nursing care
- Lodge accommodation is intended for patients who reside outside a 50 km radius of the clinic
- Pediatric patients, age 16 or under, must be accompanied by a responsible adult.

Payment

- Accommodation is free for cancer patients who meet the above criteria
- There will be a per diem charge to patients from outside Saskatchewan
- One companion per patient may be accommodated at the Lodge **if space is available**. Companions will be charged a per diem rate.
- A companion required to accompany a pediatric patient is **not** charged.

HISTORICAL BACKGROUND

1929 The Saskatchewan Medical Association appointed a committee to study facilities available in the Province for treatment of cancer and recommended to the Minister of Health that a cancer program be established.

1930 The Saskatchewan Cancer Commission Act was passed which authorized a Commission to establish a cancer control program in Saskatchewan.

1931 Consultative diagnostic treatment clinics were opened at the Regina General Hospital and the Saskatoon City Hospital.

A radon plant was established at the University of Saskatchewan and was operated by the Cancer Commission until 1962.

1939 The Regina Cancer Clinic was relocated to the Regina Grey Nuns' Hospital.

1944 The Cancer Control Act replaced the Saskatchewan Cancer Commission Act, and provided treatment at provincial expense for persons who had been resident in the province for more than six months.

1945 Radioactive isotopes were introduced to a limited extent at the clinics.

1947 The Canadian Cancer Society provided a personal service worker at each clinic to help in the personal needs of the patient.

1948 The Regina clinic moved to a newly constructed wing of the Regina Grey Nuns' Hospital and was named the Allan Blair Memorial Clinic in recognition of the contribution of the late Dr. Allan W. Blair to the program.

1949 A 25 million electron volt betatron was installed at the University of Saskatchewan and became available for treatment of patients with advanced cancer.

1951 The first cobalt unit in the world was designed and installed at the Saskatoon Cancer Clinic.

1954 The cancer clinic in Saskatoon was moved to the newly constructed University Hospital.

1958 Treatment was extended as an insured benefit to persons who had been resident in the province for more than three months.

1962 Insured benefits for cancer treatment were extended to Saskatchewan residents who received treatment outside the province.

1963 Renovation and expansion of radiotherapy facilities at the Allan Blair Memorial Clinic were completed.

1966 Insured benefits were extended to landed immigrants from the day of arrival.

1970 The Minister of Public Health established a study team to review and examine all aspects of cancer care in Saskatchewan and the report was made available in 1972.

1972 A new radiotherapy facility was opened at the Saskatoon Cancer Clinic which included a new 42 million electron volt betatron.

The Cancer Control Act was amended to provide for the establishment of trust funds which could receive gifts, donations, bequests or grants.

1973 The Cancer Control Act was amended to restructure the Commission and redefine its powers and duties.

A new Commission was appointed in April 1973.

HISTORICAL BACKGROUND

1975 Nuclear medicine services were transferred from the cancer program to the Boards of the University Hospital and the South Saskatchewan Hospital Centre as hospital-based services.

1978 Dr. T. A. Watson completed a study titled "A Report on Some Aspects of the Saskatchewan Cancer Program". Several recommendations were made in the report including the establishment of the Saskatchewan Cancer Foundation to replace the Cancer Commission and the purchase of a linear accelerator for the Allan Blair Memorial Clinic.

Construction was completed on the expanded and renovated radiotherapy facilities at the Allan Blair Memorial Clinic.

1979 The Saskatchewan Cancer Foundation Act was passed establishing a Foundation to replace the Cancer Commission. Under this Act, the Foundation conducts a program for the diagnosis, prevention and treatment of cancer.

1980 Renovation to the Allan Blair Memorial Clinic began with the construction of the chemotherapy treatment area.

1981 A Mevatron 77 Linear Accelerator was installed at the Allan Blair Memorial Clinic.

Construction of a 28 bed patient lodge in Saskatoon was begun.

1982 The newly renovated Allan Blair Memorial Clinic was officially opened on June 22, 1982.

In August, an eight day strike by unionized employees occurred and was ended by an Act of the Legislature.

1983 On April 8, 1983, the first Saskatchewan patient lodge was officially opened in Saskatoon.